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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,472

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Fabrice TP Saffre

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EXAMINER

NOORISTANY, SULAIMAN

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/530,472	<b>Applicant(s)</b> SAFFRE, FABRICE TP	
	<b>Examiner</b> Sulaiman Nooristany	<b>Art Unit</b> 2146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-12,14-17,19,27,29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-12,14-17,19,27,29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/08/2005 &amp; 05/25/2007</u>                               | 6) <input type="checkbox"/> Other: ____                           |

***Detailed Action***

This Office Action is response to the application (10/530472) filed on 21, Oct 2003.

***Claim Rejections - 35 USC § 112***

**3. The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

***Claims 1, 3-6, 8-12, 14-17, 19, 27, 29-30 are rejected under 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention***

**As per claim 1**, line 5, the term "*capable*" is indefinite (i.e., it is unclear if anything is actually being performed).

**As per claim 12**, line 5, the term "*capable*" is indefinite (i.e., it is unclear if anything is actually being performed).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**Claims 1, 3-6, 8-12, 14-17, 19, 27, 29-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tachibana. Patent No US 5,699,351** in view of **Gregerson. Patent No. US 5,699,351**.

**Regarding claims 1 & 12**, Tachibana teaches wherein a node for a network (**Fig. 4**), the network comprising a hierarchical structure in which a node is considered to be at a higher level than a parent node to which it connects when joining the network, the node being adapted to (**Fig. 4, first, second, third, forth hierarchical nodes**).

With respect to claims 1 & 12, Tachibana teaches the invention set forth above except for the claimed *"(a) join the network by identifying a parent node at a lowest level in the network that is capable of maintaining secondary connections to other nodes in the network of the same lowest level*

*(b) request one of the secondary connections of the parent node to other nodes in the network of the same level to be terminated and reallocated to the node if the identified parent node has no free links to become a primary connection between the identified parent node and the node at a lower level in the network hierarchy*

*(c) to attempt to initiate and maintain a specified number k-1 of further secondary connections between the node and other nodes in the network having the same level in the hierarchy as the node and which are advertise a spare connection thereby attempting to maintain k connections to each node*

Gregerson teaches that it is known to utilize (a) join the network by identifying a parent node at a lowest level in the network that is capable of maintaining secondary

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connections to other nodes in the network of the same lowest level (**As new resources join (re-join) the network ..... Any node can assume one or multiple roles within hierarch... – Col. 3, lines 13-30; A kernel at level  $n$  is termed to be a child of its parent kernel at level  $n+1$  provided that two kernels have the same name above level  $n$  – Col. 7, lines 41-44; Fig. 9, 14);**

(b) request one of the secondary connections of the parent node to other nodes in the network of the same level to be terminated and reallocated to the node if the identified parent node has no free links to become a primary connection between the identified parent node and the node at a lower level in the network hierarchy (**Fig. 7, broadcast message -- Col. 8, lines 7-58; The technique includes identifying resources that join the network by switching from an inactive to an active state; and informing the requester the availability of the requested resource, Abstract, Lines 8-11);**

(c) to attempt to initiate and maintain a specified number  $k-1$  of further secondary connections between the node and other nodes in the network (**The kernels dynamically locate one another in real-time to form and maintain a hierarchical structure that supports a virtually unlimited number of independently running kernels – Col. 2, lines 57-60);**

having the same level in the hierarchy as the node and which are advertise a spare connection thereby attempting to maintain  $k$  connections to each node (**Role Call is a procedure by which a kernel quires the network to find out vacancies in the name space hierarchical – Col. 8, lines 62-63).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tachibana's invention by using the system of a network in which nodes such as a host, a hub, router, etc. are interconnected, each node is indicated by an icon, and the connection between the nodes is indicated by a line. A node to be regarded is positioned in the center of the map as a root, and a node directly connected to the root is arranged as a node at the second hierarchical level on the circumference of the circle with the root centered. The node connected to the node at the second hierarchical level is arranged as a node at the third hierarchical level on the circumference of the concentric circle, with the root centered, having a larger radius than the node at the second hierarchical level. Similarly, the network configuration is assumed to be a hierarchical structure with the root centered, and an icon indicating an object at a higher hierarchical level is arranged on the circumference of a concentric circle having a larger radius. Additionally, the correlation between objects can be re-recognized from various points of views by changing an object to be regarded, thereby easily obtaining the correlations between objects and the information about objects themselves, as taught by Tachibana.

**Regarding claims 3 & 14,** Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein to attempt to maintain the specified number of  $k-1$  further connections between the node and other nodes in the network by periodically carrying out the following step **(listening for routing information packets which are periodically broadcast by other context**

**bridges, Abstract, Lines 15-16):**

for each unallocated one of the k-1 connections, selecting a node from one or more candidate nodes, and forming a connection with the selected node **(A kernel enters the network by running the Login process to locate its parent kernel, Col. 7, Lines 56-67),**

until either the k-1 further connections have been successfully completed or there are no more candidate nodes **(the child kernel sends a login request to the parent and waits for an acknowledgement. If a login broadcast is not received, the child kernel continues to listen for a login broadcast until the end of the wait period, Col. 8, Lines 1-6).**

**Regarding claims 4 & 15,** Gregerson and Tachibana together taught the method of a node according to claim 3, as described above. Gregerson further teaches wherein the step of selecting the peer node comprises selecting at random from the one or more candidate nodes **(The present invention is a dynamic, Symmetrical, distributed, real-time, peer-to-peer system comprised of an arbitrary number of identical, Col. 2, Lines 46-53, The role(s) assumed by any node within the managerial hierarchy employed is arbitrary, i.e., any node can assume one or multiple roles within the hierarchy, Col. 3, Lines 12-16).**

**Regarding claims 5 & 16,** Gregerson and Tachibana together taught the method of a node according to claim 3, as described above. Gregerson further teaches wherein the

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step of selecting the node comprises selecting on the basis of the range of the candidate nodes to the node **(The configuration parameter MaxStatus imposes a ceiling on the highest level of which the kernel can be a manager. A kernel at level  $n$  is termed to be a child of its parent kernel at level  $n+1$ , Col. 7, Lines 39-44).**

**Regarding claims 6 & 17**, Gregerson and Tachibana together taught the method of a node according to claim 5, as described above. Gregerson further teaches wherein the network comprises an overlay network formed over an underlying network of nodes **(Fig. 14, underlying mix of physical topologies, Col. 2, Lines 59-60)**, and wherein the range between a candidate node and the node comprises the number of links between them in the underlying network **(A kernel at level  $n$  is termed to be a child of its parent kernel at level  $n+1$  provided that the two kernels have the same name above level  $n$ , Col. 7, Lines 39-44).**

**Regarding claims 8 & 19**, Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein to identify another node as a prospective parent node on the basis of the range of the other node to the node **(the parent kernel will nominate a successor from among its children by nominating the winner of an election process which it performs on its children, Col. 12, Lines 5-8, Fig. 15-16).**



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**Regarding claims 9 & 20**, Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein to identify another node as a prospective parent node if it is within a specified range of the node **(the parent kernel will nominate a successor from among its children by nominating the winner of an election process which it performs on its children, Col. 12, Lines 5-8, Fig. 15-16).**

**Regarding claims 10 & 21**, Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein in the event that the primary connection fails **(PLN employs a system of "heartbeat" messages, which is used to monitor the status of nodes within the network and identify network failures, Col. 6, Lines 22-24)**, to re-establish a primary connection with another node which is at a lower level in the network hierarchy than the node **(PLN handles the election of managers, the transparent reestablishment of management hierarchies as a result of physical network faults, Col. 6, Lines 20-22).**

**Regarding claims 11 & 22**, Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein in which the specified number  $k-1$  of connections is substantially the same for every node **(A kernel at level  $n$  is termed to be a child of its parent kernel at level  $n+1$  provided**

**that the two kernels have the same name above level n, Col. 7, Lines 39-44).**

**Regarding claims 23 & 26,** Gregerson and Tachibana together taught the method of a node according to claim 1. as described above. Gregerson further teaches wherein a tangible data store containing a computer program comprising instructions for causing one or more processors to operate as the node **(The PIPES software includes a PIPES Application Programmer Interface for communicating with Apps. A-C, Col. 5, Lines 4-7)** when the instructions are executed by the processor or processors **(A method for independently executing software components in a node of a network containing many nodes, Abstract, Lines 1-2).**

**Regarding claims 24 & 27,** Gregerson and Tachibana together taught the method of a node according to claim 12, as described above. Gregerson further teaches wherein a storage medium **(Database, Col. 12, Line 53)** carrying computer readable code representing instructions for causing one or more processors to operate as the node when the instructions are executed by the processor or processors **(The node at which the resource originates first checks its local resource database to determine whether a resource with the same name already exists, Col. 12, Lines 51-54).**

**Regarding claims 29 & 30,** Gregerson and Tachibana together taught the method of a node according to claim 1, as described above. Gregerson further teaches wherein the node is adapted to: upon receipt of a request from a further node desiring to form its

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primary connection with the node **(Another technique locates resources requested by a node in a scalable system interconnecting many nodes in a network, Abstract, Lines 6-8)**, and in the event that none of the  $k-1$  of further connections of the node is unallocated, then to: select one of the further  $k-1$  connections which is not a primary connection for one of the other nodes; and to re-allocate that selected further connection to the further node so as to form the primary connection for the further node **(The technique includes identifying resources that join the network by switching from an inactive to an active state; and informing the requester the availability of the requested resource, Abstract, Lines 8-11).**



JEFFREY PWU  
SUPERVISORY PATENT EXAMINER

### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on \*M-F\*\* from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

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see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 10/29/2007